

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/215,804

Confirmation No.: 1595

In re application of: Mark Gavin et al.

Filed: December 18, 1998

Technology Center/Art Unit: 2176

Examiner: William L. Bashore

Docket No.: D3239-00002

Customer No.: 08933

Title: METHOD, SYSTEM AND COMPUTER PROGRAM FOR REDACTION OF
MATERIAL FROM DOCUMENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 CFR § 1.132

Sir:

I, Virginia M. Gavin, hereby declare as follows:

1. I am one of the named inventors of the above-identified patent application (the "Application").
2. My current position is President of Appligent, Inc., the successor in interest to Digital Applications, Inc. and assignee of the Application. I have held this position since January 1991.
3. I understand that claims from the Application directed to redacting textual and image content from a document in portable document format (PDF) comprising a PDF data stream were rejected as being obvious in view of various references.
4. We have been selling versions of our Redax® redaction software since December 1997.

5. Our first version of the redaction software (Redax 1.0) could only redact text from PDF documents. Sales of the Redax 1.0 product were insignificant – only 16 copies were sold. It is our belief that the low sales for this version can be attributed to the product's inability to redact both text and images from PDF documents.
6. On or around May 1998, Appligent released Redax 1.5, which was the first version of Redax capable of redacting both text and images from PDF documents and operates in accordance with the claims of the Application. This version and later versions (to version 4.0), which also redact both text and images, have met with great commercial success. We believe this commercial success is due to the product's ability to redact both text and images. Since 1998, we have over one hundred and fifty thousand (150,000) licensed users of Redax versions that are capable of redacting both text and images from electronic documents in PDF format. The product has also been licensed for integration in several high-end document-management system packages. Revenues for this product have exceeded two million five hundred thousand dollars (\$2,500,000).
7. Each purchaser of Redax 1.0, which could only redact text, has upgraded to a version of Redax that can redact both text and images. Again, we believe the ability to redact both text and images from PDF documents was the critical feature in the product's great commercial success and demand.
8. In 2003, we released Redax Lite, which allows the user to mark up PDF documents with standard Acrobat markups (highlights, underscores and strikeouts) and enables the user to redact only text, and not images, from PDF documents. This text-only product has met with no commercial success. Since 2003, we have sold only thirty-one (31) copies of Redax Lite. The vast majority of these users – approximately 90% – quickly upgraded from Redax Lite to a version of Redax that can redact both images and text. It is our understanding that the low sales for this product can be attributed to the product's inability to redact both text and images from PDF documents.
9. Versions of Redax that can redact both text and images from a PDF document have gained great acceptance from governmental customers as the required and/or preferred redaction tool. Examples of government bodies that use the Redax tool include the U.S.

Department of Justice, Royal Canadian Mounted Police, U.S. Department of Health and Human Services (including all divisions of the FDA), U.S. Army, U.S. Air Force, Queensland Government (Australia), Health Canada, U.S. Department of the Treasury (including the IRS) and the National Transportation Safety Board.

10. The Redax product (for redacting both text and images from PDF documents) has also met with great approval and been widely praised in the industry and by competitors.
11. In “Redaction of Confidential Information in Electronic Documents” (Exhibit A), Adobe Systems, Inc. (Adobe) – the inventor of the PDF format and a competitor of Appligent – recognized the importance of and difficulties associated with redacting electronic documents in PDF format. According to the article, the Redax product is recommended by Adobe for performing redactions from PDF documents. (Page 2). The only other alternative, according to the publication, is a complex PDF-to-TIFF-to-PDF conversion process. (Pages 11-12).
12. Likewise, in an “Acrobat for Legal Professionals” blog sponsored by Adobe (Exhibit B), the author, who is an Adobe employee, describes why alternative redaction processes (besides Redax and the PDF-to-TIFF-to-PDF conversion processes) such as using built in features of Adobe Acrobat cannot remove the redacted content from the underlying data stream and thus are not recommended. (Pages 1-3). The author recommends Redax as “the best way to redact PDF”. (Page 5).
13. In “Redacting PDF Files: a survey of tools” (Exhibit C), the author describes generally how, despite releasing the PDF format in 1993 and over a billion dollars in revenue annually, Adobe had not developed a true PDF based redaction tool (at the time of the article) (Page 1). The author references the “clunky” PDF-to-TIFF-to-PDF “work around” redaction technique and describes other redaction tools that cannot work entirely in PDF format. (Pages 1-2). The author discusses the difficult task of redacting directly from PDF documents without conversion to other formats and problems associated with other approaches, such as loss of the underlying content and damaging of images: “As a result, most software developed for redaction purposes doesn’t deal in PDF per se at all, but must convert PDFs to images prior to the redaction process. This approach, while

relatively easy to implement, strips all the non-redacted text from the PDF, usually damages the appearance of photographs and other images and often results in increased filesize.” (Page 2). The author states, “So far, only Appligent delivers serious, stand alone redaction software that keeps PDFs ‘as they were’ in all respects-minus the redacted information, of course.” (Page 2). With this in mind, the author lauds the Redax product and states, “Redax is the standard against which all PDF redaction software must be measured. The application rewards either a structured or ad hoc approach with the most efficient, powerful and flexible PDF redaction option available.” (Page 2). The author concludes, “[U]sers requiring redaction solutions for PDF are limited to two basic options: the PDF redaction via a tool such as Redax, or converting PDF to TIFF to ‘burn in’ comments.” (Page 4).

14. In “PDF Redaction – some Q & A” (Exhibit D), the author discusses some high profile mistakes that have been made by assuming content in PDF files can simply be redacted using features in Acrobat. (Page 1-2). The author recommends the Redax product for true, irreversible redaction. (Page 2).
15. Likewise, in Jim Calloway’s Law Practice Tips Blog on “Redaction of PDF files” (Exhibit E), the author describes a high profile incident in which sensitive information was improperly redacted from a PDF document. (Page 1). The author notes that Adobe recommends Redax for proper redaction: “I recently learned from Adobe about some real and effective PDF redaction tools from Appligent.com. The products are not cheap, but if you are redacting a PDF you are going to distribute, you want to do it right.” (Page 1).
16. On Lori DeFurio’s blog on Adobe (Exhibit F), posted at an Adobe site, the author, who is an Adobe employee, discusses how Adobe’s Developer Technologies Team posted a proposed document on how to remove sensitive information from PDF documents. (Page 1). Mention of Appligent’s redaction product was “accidentally” omitted from the proposed document. (Page 1). The following correspondence shows the recognized importance and effectiveness of the Redax product by the industry:

- “Hi Lori -- I didn't see mention of Appligent's Redax in there -- from what I understand this extension is a de facto standard at various US federal agencies -- how does Redax fit within the total set of needs described in this document?”
 - “Ah... no one is perfect - including Adobe Systems. The omission of Redax was an ‘accident’. Redax is a very integral part of many PDF redaction workflows, and used by many federal agencies to adhere to the Freedom of Information Act (FOIA). The document is being updated as we speak, and I'll repost to this blog when the updated version is live.”
 - “Omitting Redax is one serious problem with this document, since it's been around for years and is a proven product with hundreds of thousands of seats installed.”
17. In “PDF Redaction Lapse” (Exhibit G), the author also discusses a high profile mishap that occurred when redacting PDF documents. She also states that Adobe recommends a specific tool for performing redaction of PDF documents. The link provided by the author directs the reader to the Redax webpage of Appligent.
18. As shown in Exhibit H, at least one court has recommended Redax as the tool for redacting content from PDF files. (Page 4).
19. The Redax product, which redacts both text and images, is also praised in “A New Generation of Redacting Tool” (Exhibit I). In this article, the author states: “The leading redaction software for PDF documents, which retails for \$349, is Redax 3.0, manufactured by Lansdowne, Pa.-based Appligent Inc. Lauded for its ease of use (as training takes less than an hour), Redax searches PDF documents and tags protected words, phrases or pictures. It then creates a new document in which the redacted text is completely deleted, preventing a reviewer from retrieving any eliminated data.” The author continues, “Robert Dawson, an attorney at Dawson Law Chambers in Winnipeg, Canada, notes that Redax ‘allows a simple box to be drawn over the irrelevant information and a code to be inserted, referring to the specific court rule that justifies the redaction.’” Further, the author quotes Lori DeFurio, “developer evangelist for Adobe's ePaper technologies” as stating “Redax is the tool of choice when anyone even says the word redaction.”


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20. Further, the article "Plug-in for Acrobat Exchange and Windows Rescues Redaction Process" recommends Redax for redaction of images and text. (Exhibit J). (Pages 1-2).
21. Finally, in "Cut it out, or copy without? Redacting with Acrobat 8 Professional vs. Redax" (Exhibit K), the author compares Adobe's newly released Acrobat 8, which includes redaction of text and images, to Redax. The author explains that "Acrobat 8 Professional is the first Adobe software to include a redaction feature for PDF, but it's not the first. . . . Appligent developed and released the first version of Redax, which quickly became the definitive tool for serious redaction work on PDF files." (Page 1). After comparing the two products, the author states, "I cannot as yet recommend Acrobat's redaction, free as it is (with the purchase price of Acrobat 8 Pro), over the fail safe and time tested Redax." (Page 2).
22. These articles show the professional approval in the industry of Redax 1.5 and later versions as the de facto tool for redacting text and image content from PDF documents.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further state that these statements were made with my knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this patent.

Respectfully submitted,

Dated: 1/23/2007



Virginia M. Gavin

EXHIBIT A

Redaction of Confidential Information in Electronic Documents

How to safely remove sensitive information from Microsoft Word documents and PDF Documents Using Adobe Acrobat

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Redaction, which means removing information from documents, is necessary when confidential information must be removed from a document before final publication. Problems can arise when editors use an improper method such as trying to obscure information rather than deleting it, or if they are unaware of sensitive metadata in a document. They can find out, too late, that the information can later be extracted from the document.

Documents are typically authored in an application such as Microsoft® Word® or PowerPoint®, and converted to PDF for final distribution. As with many publishing operations, redaction is best accomplished in the authoring application.

Using Microsoft Word as an example, this document explains how to set preferences for safe conversion to PDF. The general principles can be applied for use with other word processing or page layout applications.

When only a PDF version of a document is available, it is necessary to redact using Acrobat. The section "Redacting a PDF Document" on page 11 describes a procedure for that purpose. Again, every effort should be made to redact in the authoring application before converting to PDF.

NOTE: This document addresses redaction for documents that will be distributed as PDF files. Publishing documents in, for example, Microsoft Word or PowerPoint format can involve issues that are beyond the scope of this document.

Typical Causes of Redaction Problems

There are two main causes of failing to remove confidential information from a document:

- *Attempting to hide confidential content by obscuring or covering the information:* Editors may try to cover sensitive information with a colored rectangle or by highlighting text in black. While these methods work for hard copy documents, they are not appropriate for electronic documents because there are ways to extract the information from the resulting PDF document.
It is also possible that sensitive information might be covered, either intentionally or not, by a non-sensitive image. Since it might be unintentional, the need for redaction might not be obvious to the editor.
- *Being unaware of document Metadata, or not knowing how to properly remove it:* Both Word and PDF documents can carry metadata

information about the document, such as author, subject, keywords, and title. The author may be unaware of metadata generated by the application, and it may not be apparent unless the user knows where to look for it.

Application Tools for Removing Data

Microsoft Word XP/2003

Microsoft has provided some tools for redaction for their Office 2003 suite of products; see "References" on page 13 for links to the Microsoft Web page. The descriptions for these tools does not claim to remove all metadata or sensitive information from the source document. You should make your own assessment regarding the effectiveness of these tools.

Adobe Acrobat

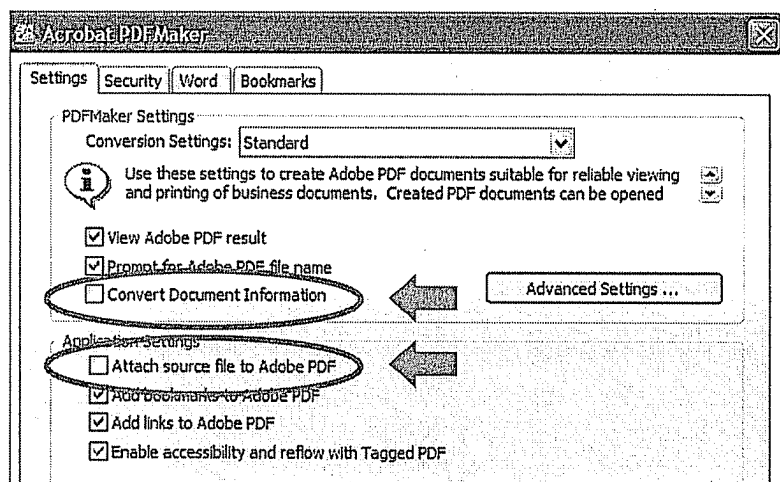
Adobe® Acrobat® does not have tools specifically for redaction, but it is important that you correctly set the conversion parameters for converting Word files.

If you have only a PDF version of a document that requires redaction, there are two choices. You can obtain an Acrobat third-party plug-in such as Redax from Appligent (<http://www.appligent.com>), or you can use the procedure explained in "Redacting a PDF Document" on page 11.

Conversion settings for Adobe® Acrobat® PDFMaker are accessible through the Microsoft Word user interface. PDFMaker works with Acrobat Distiller's; its operation can be modified by settings selectable within Distiller or PDFMaker (Select **Adobe PDF** > **Change Conversion Settings** > **Advanced Settings**, see "Setting PDF conversion parameters" on page 9).

Most of the conversion settings adjust the size and resolution of the resulting PDF document. PDFMaker has a number of settings related to conversion from Word, as shown in Figure 1, two of which are for controlling confidential information.

FIGURE 1 PDFMaker Settings in Microsoft Word



You must verify the following settings:

- The checkbox **Convert Document Information** controls the conversion of Microsoft Word metadata to PDF and is *checked* by default. Unchecking **Convert**

Document Information removes one source of metadata transferring to the PDF document, but is not a complete solution.

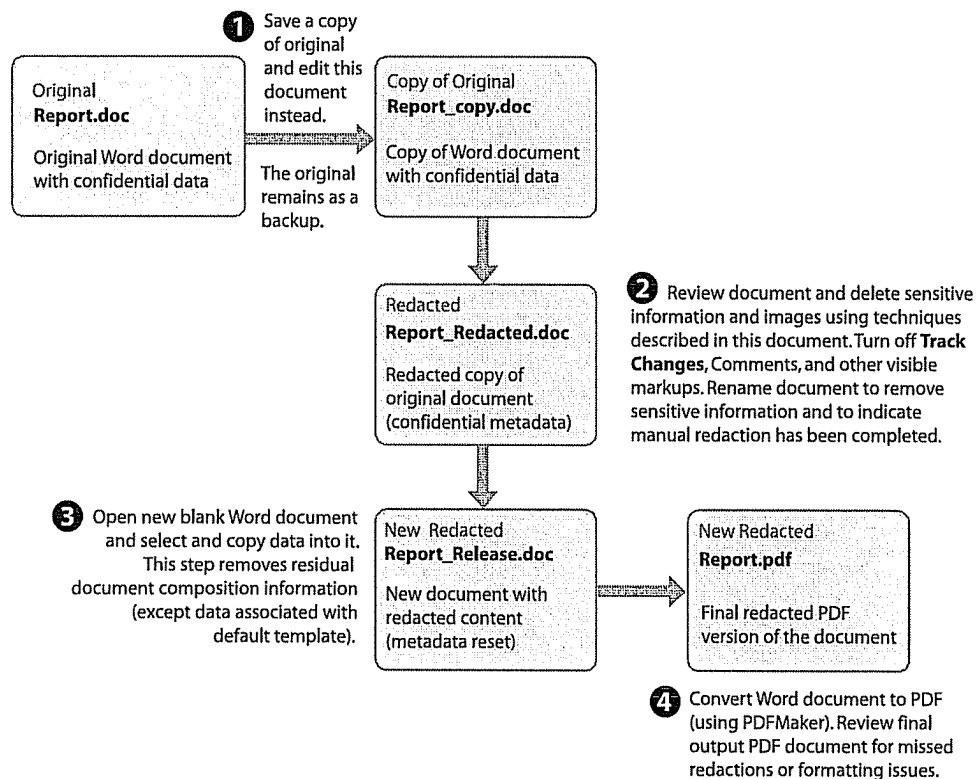
- **Attach source file to Adobe PDF** inserts a copy of the original Word document into the output file, which is rarely what is wanted when redacting a Word document. It is *unchecked* by default, and should remain unchecked for most purposes.

Redacting a Word Document

The key to understanding how sensitive data can be embedded in a PDF document is that information hidden or covered in an electronic document, can easily be recovered. The solution is to ensure that sensitive information is not just visually hidden or made illegible, but is actually deleted from the source file.

In some documents, deleting sections can cause an undesirable reflow of text and graphics. If document formatting is a critical issue, the procedures below discuss some methods for maintaining that formatting.

FIGURE 2 Redaction Process Workflow



Detailed Sanitizing Procedure

The following procedures are described for use with Microsoft Word, but they can be easily adapted for use with other word processor products.

NOTE: The step numbers in Figure 2 above correspond to the step numbers below (white Arabic numerals on a black circle background).

① Create a New Copy of the Document

a. Create a new copy of the file

Open the document and select **File > SaveAs** from the top menu bar; give the file a new name. Make sure the new name is not sensitive. All redaction will be done with the new copy, preserving the original as a backup.

b. Turn Off "Track Changes"

The Track Changes feature is a toggle. Selecting **Tools > Track Changes** from the top menu bar toggles the feature on or off. The quickest way to determine if Track Changes is on or off is by looking at the bottom status bar. The letters TRK are dimmed if Track Changes is off, and bold if Track Changes is on.

② Review and Delete Sensitive Content

- a. Select each chart, diagram, image, or segment of text to be redacted and delete that item. Delete all comments. Resizing an image, covering a section with a black box, or changing the color of a font to make it invisible, will not work; the item **must** be deleted.

If deleting an item changes the format or structure of the document in an unacceptable way, replace the item with meaningless content of a size that retains the desired formatting.

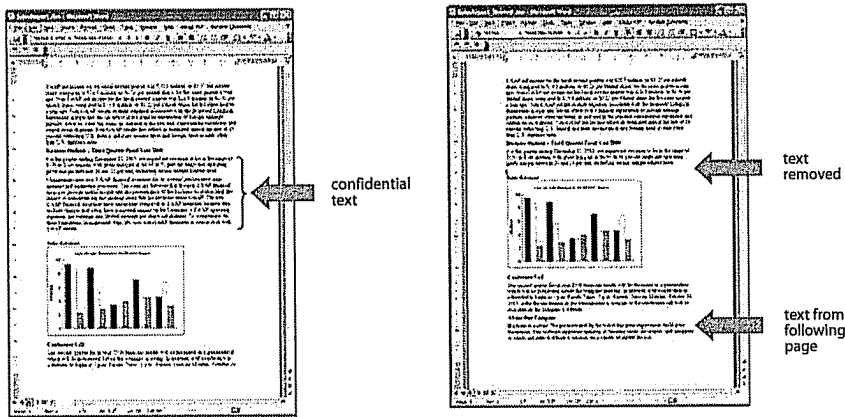
If the redacted item is text, you can replace the text with a single character, such as all Xs, repeated to fill the equivalent number of lines. If the redacted item is an image, you can replace the item with an appropriately colored rectangle (for example, white or gray) of the same size. For detailed procedures, see Redacting Text, below; for redacting images, see "Redacting an Image" on page 5.

Redacting Text

Figure 3 shows a page of a document before redaction (left), and after the sensitive paragraph has been deleted (right).

The sample page on the right side of Figure 3 shows the same page after deleting the text (indicated by the top arrow). Notice that additional text from the next page moved up in the document because deleting the text caused text from the following page to move up onto this page (text indicated by the second black arrow on the right side).

FIGURE 3 Original and Redacted Document

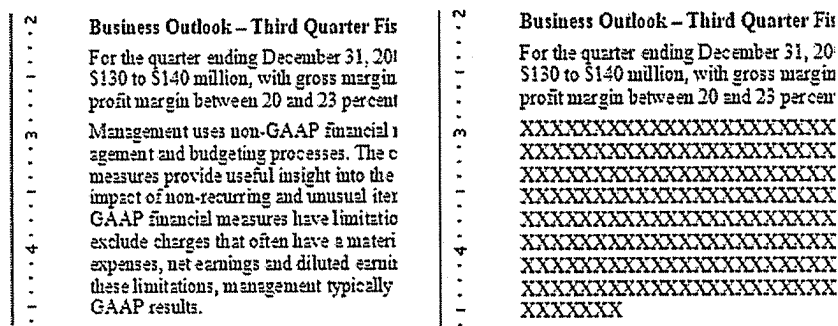


For some documents, the potential text reflow will not be a problem. In other documents, the reflow can cause changes to all following pages, so some reformatting may be necessary to ensure that illustrations stay with the appropriate text and that page breaks are in the correct place. This could be time consuming for a large document.

NOTE: For Microsoft Word, using the free *Microsoft Office 2003 Add-in: Word Redaction*, enables you to redact without changing the layout of the document. See "References" on page 13.

If formatting changes are a concern, you can replace the redacted text with meaningless text of the same size, rather than delete it. Figure 4 shows a before-and-after close-up of the replaced text. Notice that the paragraph following the replaced text did not shift position, thus preserving the formatting of the rest of the document.

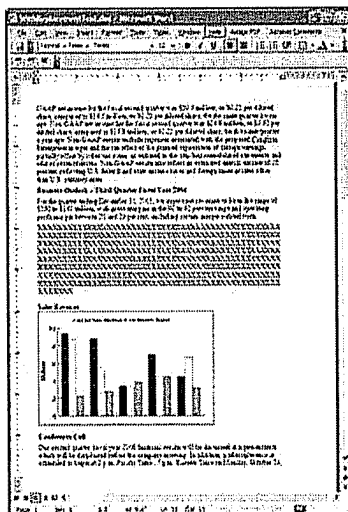
FIGURE 4 Replacing Text with an Equal Amount of Meaningless Text



Redacting an Image

Figure 5 shows the page from Figure 3 after redacting the text as described above. The following procedure describes how to delete an image (in this example it is a chart which was imported as an image), and to retain existing page layout and page breaks.

FIGURE 5 Redacting an Image

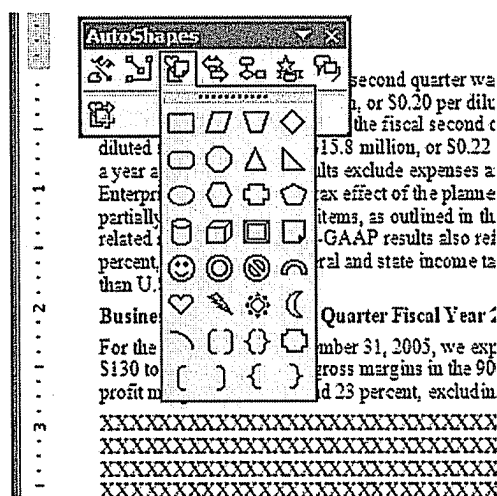


To preserve the formatting, insert a rectangle the same size as the chart (or image) into the vacant space as detailed in the following steps.

NOTE: A confidential graphic may contain an additional title, caption, or other text that must be removed but whose dimensions may not be included in the information on the **Size** tab. If you remove the text, you might want to adjust the dimensions of the replacement rectangle to compensate for the removal of that text, or replace the text with Xs as described above.

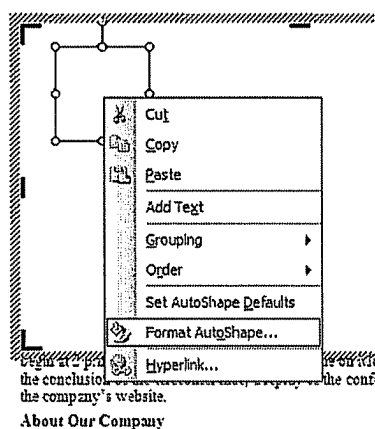
- i. Before deleting the image, determine its size: select the image, select **Format > Picture** from the top menu bar, and then select the **Size** tab in the Format Picture dialog box. Make a note of the height and width of the image.
- ii. Select the image and delete it.
- iii. Insert a rectangle in the same space: select **Insert > Picture > AutoShapes** from the top menu bar (this opens the AutoShapes toolbar). Select the rectangle from the AutoShapes toolbar as in Figure 6. Left click the rectangle which creates a drawing canvas. Move the cursor somewhere on the drawing canvas, left click again to drop a rectangle on the canvas.

FIGURE 6 Choosing a Replacement Shape



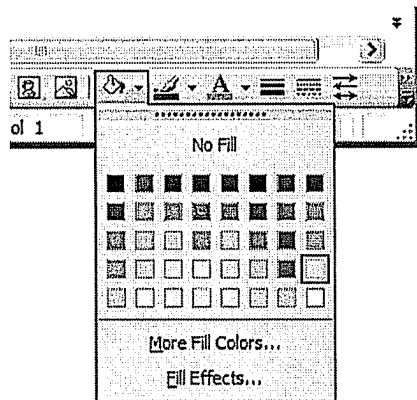
- iv. Resize the rectangle by selecting the rectangle, move it to the upper left corner of the drawing canvas. Right click and select **Format AutoShape** from the menu as shown in Figure 7 (this opens the Format AutoShape dialog box), select the **Size** tab, enter the desired height and width of the rectangle. If you deleted additional text such as a caption for the image, you can add to the height to compensate, or you can replace that text with Xs as described above. Click **OK**.

FIGURE 7 Setting the Rectangle Size



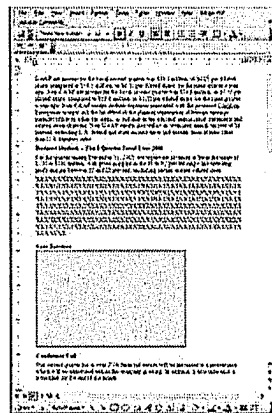
- v. Fill the rectangle with gray (or any other appropriate color): select the paint bucket on the bottom toolbar which brings up the **Fill** toolbar shown in Figure 8. Left click on one of the chosen colors.

FIGURE 8 Setting the Fill Color



- vi. Figure 9 shows the page after redacting both the text and the image; notice that the format and page layout of the subsequent text in the document is preserved.

FIGURE 9 Redacted Text and Image



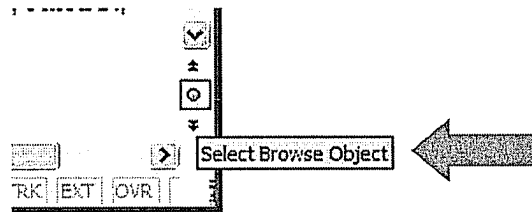
b. Double Check the Redacted Document

Carefully read over the document to ensure that all material to be redacted has been deleted and, if necessary, replaced with nonsense filler text. Check all headers, footers, captions, section titles, footnotes, endnotes, labels, etc. Verify that all comments have been deleted.

To easily flip through the document, use Word's "Browse By" feature for some of the different objects. By default, the arrows at the bottom of the right scroll bar cause you to browse through the document *by page* when clicked. To change this:

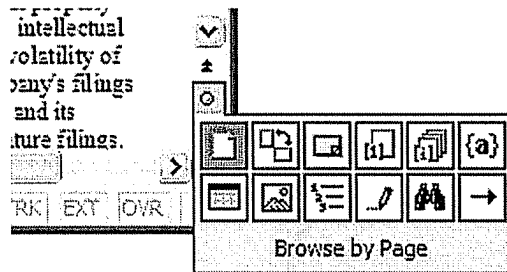
- i. Click the dot at the bottom of the scroll bar shown in Figure 10. This brings up a toolbar with the **Browse By** options, including **Browse By Comment**, **Browse By Footnote**, **Browse By Graphic**, etc., as shown in Figure 11.

FIGURE 10 The “Browse By” Button



- ii. Select one of the options.
- iii. Use the double arrows on top and bottom of the dot to search through the document, moving to each instance of the chosen type of object. Repeat for all types of objects. This is a quick way to make sure all comments are deleted, all images have been redacted correctly, all footnotes have been checked, etc.

FIGURE 11 Selecting “Browse by Page”



3 Create a New Blank Document

a. Select and copy document contents to a new file

Select the entire contents of the document using **Edit > Select All** from the top menu bar. Copy the selected contents using **Edit > Copy** from the top menu bar. This will copy the contents, the formatting, the headers and footers and all necessary information into Word's buffer.

Open a new Word document using **File > New** from the top menu bar. Paste the redacted document contents into this new document using **Edit > Paste** from the top menu bar.

Save the document with a new name using **File > SaveAs** from the top menu bar.

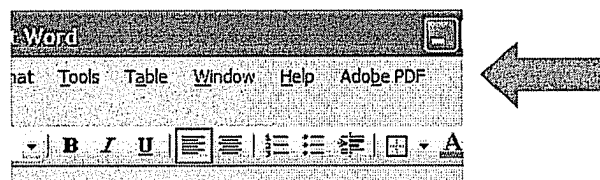
b. Setting PDF conversion parameters

One reason to convert a Word document to PDF is that the conversion redacts some information or hidden data from the document that is intrinsic to the Word format. However, some PDF software has the ability to automatically copy document metadata and properties from Word into the PDF file. This feature, among others, must be disabled when sanitizing documents.

The following procedure is the most common way to disable the data transfer of sensitive document content. However, other methods can be used if the PDF software is configured to prevent converting anything but the visible contents of the file.

NOTE: If Adobe PDF is not on the menu bar, try reinstalling Adobe Acrobat or consult your system administrator.

FIGURE 12 Selecting "Adobe PDF" from Word Menu

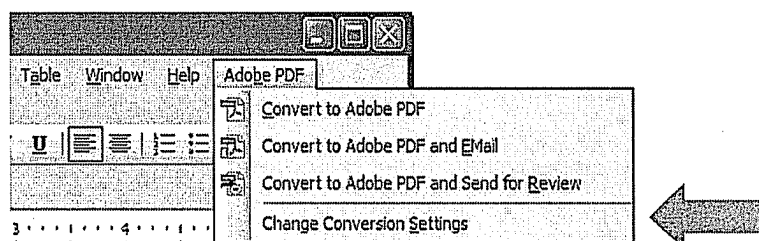


There is also a configuration tool accessible from the Word menu bar (using Acrobat 6 or higher) that allows the user to change numerous settings for PDF conversions. The following procedure describes the settings for converting redacted Word documents, and these options must be verified for each document conversion.

To select the settings for PDF from the Word menu bar, do the following:

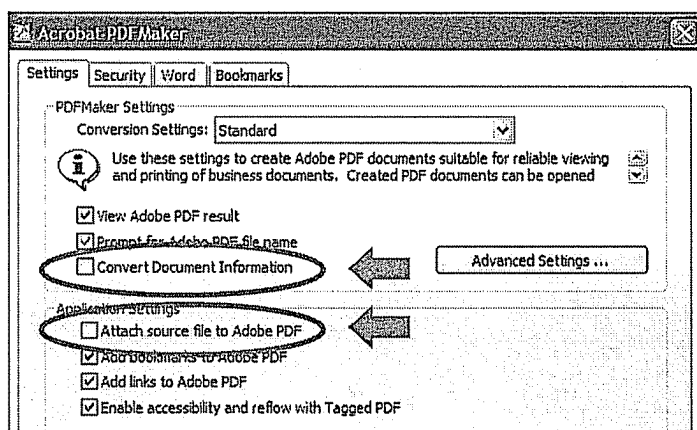
- i. From the Word menu bar, select **Adobe PDF > Change Conversion Settings**, as shown in Figure 13.

FIGURE 13 Selecting "Change Conversion Settings"



The Acrobat PDFMaker dialog opens, as shown in Figure 1.

FIGURE 14 Setting PDFMaker Preferences

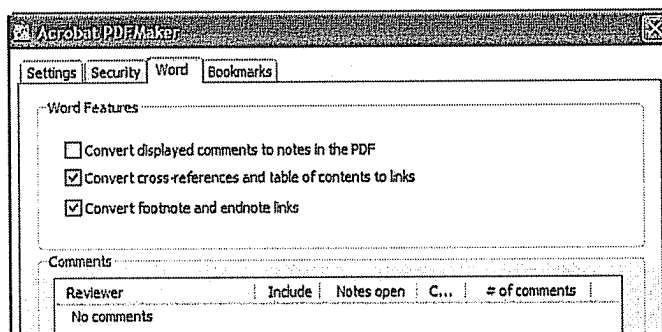


- ii. The PDFMaker dialog contains four tabs labeled **Settings**, **Security**, **Word**, and **Bookmarks**. On the **Settings** tab, ensure that **Convert**

Document Information and **Attach Source File to Adobe PDF** are both unchecked as shown in Figure 14.

- iii. On the **Word** Tab, shown in the close-up in Figure 15, uncheck **Convert displayed comments to notes in the PDF** and click **OK**.

FIGURE 15 *PDFMaker Word Tab*



4 Convert to PDF

- a. Select **Adobe PDF > Convert to Adobe PDF** from the menu bar.
- b. Lastly, review the output PDF for formatting issues and omissions. If any are found, return to step 2.

Redacting a PDF Document

Although redaction is ideally performed using the authoring application, it may sometimes be necessary to redact when only a PDF document is available. One solution would be to obtain an Acrobat redaction plug-in, or you can use the procedure below.

As mentioned above, it is not sufficient to use PDF annotations such as black rectangles to cover sensitive text and images. The following procedure is somewhat slow for documents with many pages, and you must be very careful in using it.

Briefly, the process of redacting in PDF involves:

- covering each item of confidential information with a black rectangle or by using black text highlighting
- converting the PDF document to multiple TIFF image files
- converting and reassembling the files into a single PDF document.

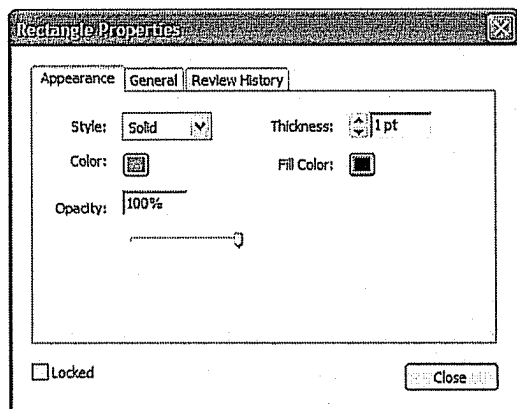
Using this procedure, each page is saved as a TIFF (bitmap) image, and all covered text and metadata will have been lost.

NOTE: Converting to TIFF and back to PDF has the unfortunate consequence that the file will no longer be searchable, and accessibility is lost because document structure and tags are lost in the process. Using a third-party redaction plug-in would avoid such problems.

To remove confidential information from a PDF document:

1. Go to **Tools > Drawing Markups**.
2. Draw a rectangle to cover the sensitive text or graphic.
3. Right click on the rectangle and select *Properties* from the pop-up menu. Set the **Fill Color** to *Black* (see Figure 16).

FIGURE 16 Setting Rectangle Fill to Black



4. Click OK.
5. Right click the rectangle and choose Make Current Properties Default, from the pop-up menu, so that each additional rectangle will be solid black.
6. Alternately, you can use the Highlight tool to highlight text (if you have a PDF Normal or Searchable PDF). Set the highlight color to *Black*. Highlight all sensitive text in the document.

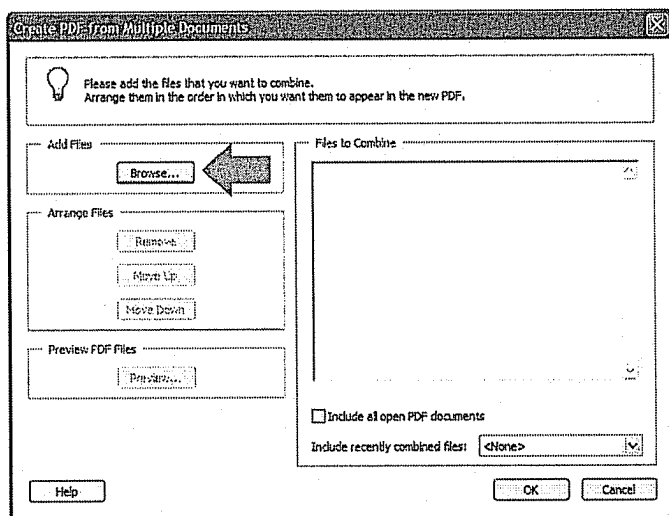
IMPORTANT: *At this point, all you have done is to cover up the confidential information. To remove the information, you need to “flatten” the file by converting to TIFF images using Steps 7 through 11 below:*

7. Select **File > Save As**.
8. Choose *TIFF* from the Type pop-up at the bottom of the dialog box.

Acrobat will save each page of the document as a separate, sequentially numbered TIFF file. You can now reassemble those files into a single PDF document (steps 9 through 11, below). Each page will be a bitmap image, so there will be no text information underlying the black rectangles and highlighting.

9. In Acrobat 7 Standard or Professional, click the **Create PDF** button on the toolbar.
10. Choose *From multiple files*.
11. Click the browse button (Figure 17) and navigate to the location where you saved the TIFF files. Select all TIFF files that you want combined and converted to PDF, and click **OK**.

FIGURE 17 Creating PDF from Multiple Documents



NOTE: If you have a lot of documents to redact, you can save to TIFF and create PDF from TIFF in batch mode using Acrobat Professional.

References

Microsoft Word 2003 Redaction Add-in Tool

<http://office.microsoft.com/en-us/assistance/HA012193991033.aspx>

Office 2003/XP Redaction Add-in (free download)

<http://www.microsoft.com/downloads/details.aspx?FamilyId=144E54ED-D43E-42CA-BC7B-5446D34E5360&displaylang=en>

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<http://www.fas.org/sgp/othergov/dod/nsa-redact.pdf>

U.S. District Court web page on Redaction:

<https://ecf.cand.uscourts.gov/cand/faq/tips/redacting.htm>

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EXHIBIT B

Acrobat for Legal Professionals

February 06, 2006

Redaction Part Two: Something Else You Shouldn't Do

I've received several comments about my article on redaction advocating a different method of producing the redacted PDF.

Wouldn't it be easier to just add mark-ups covering information and print it to the AdobePDF print driver *instead* of saving to a TIFF file?

Doesn't this "flatten" the file eliminating information underneath giving the same results?

Let me state this clearly: **No it doesn't!**

Read on to learn why . . .

Proper Redaction Technique

To refresh everyone's memory, in my [first article on redaction](#), I discussed this workflow:

1. Open a PDF
2. Make annotations on top of the document that are filled black
3. Save to TIFF
4. Reconvert to PDF

Comments

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Email: (not displayed)

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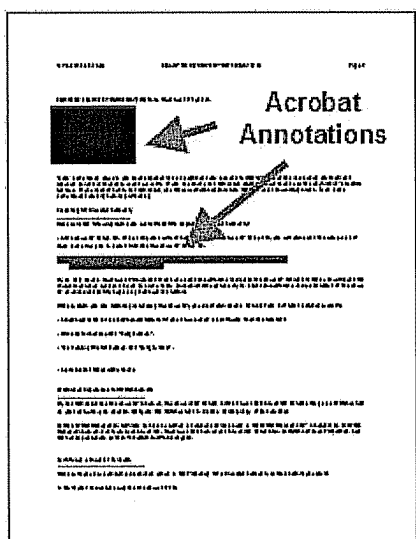
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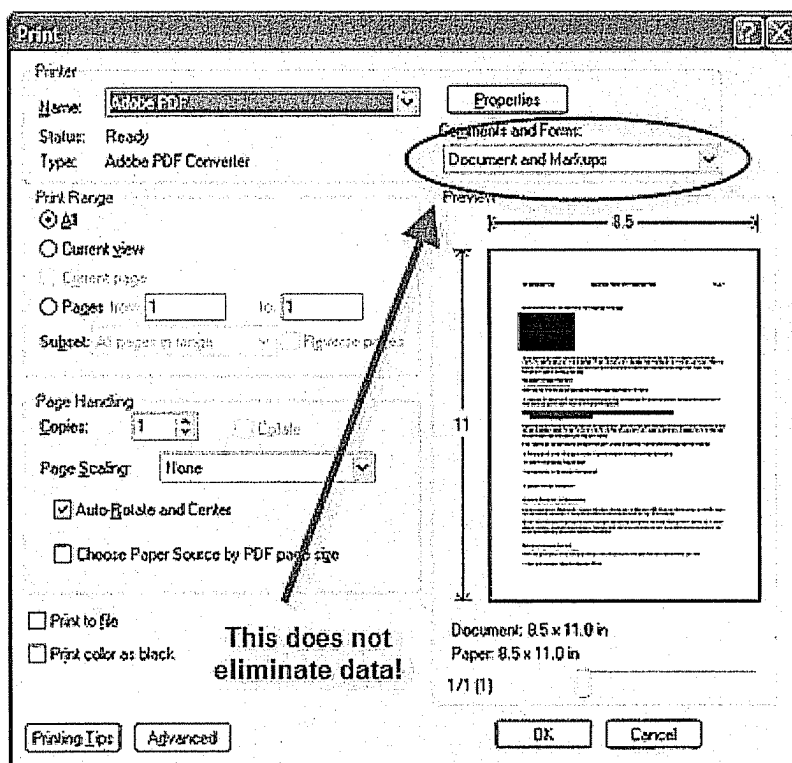
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Proposed Shortcut (but don't use it!)

Some folks take a shortcut and simply print the "redacted" PDF to the AdobePDF print driver.



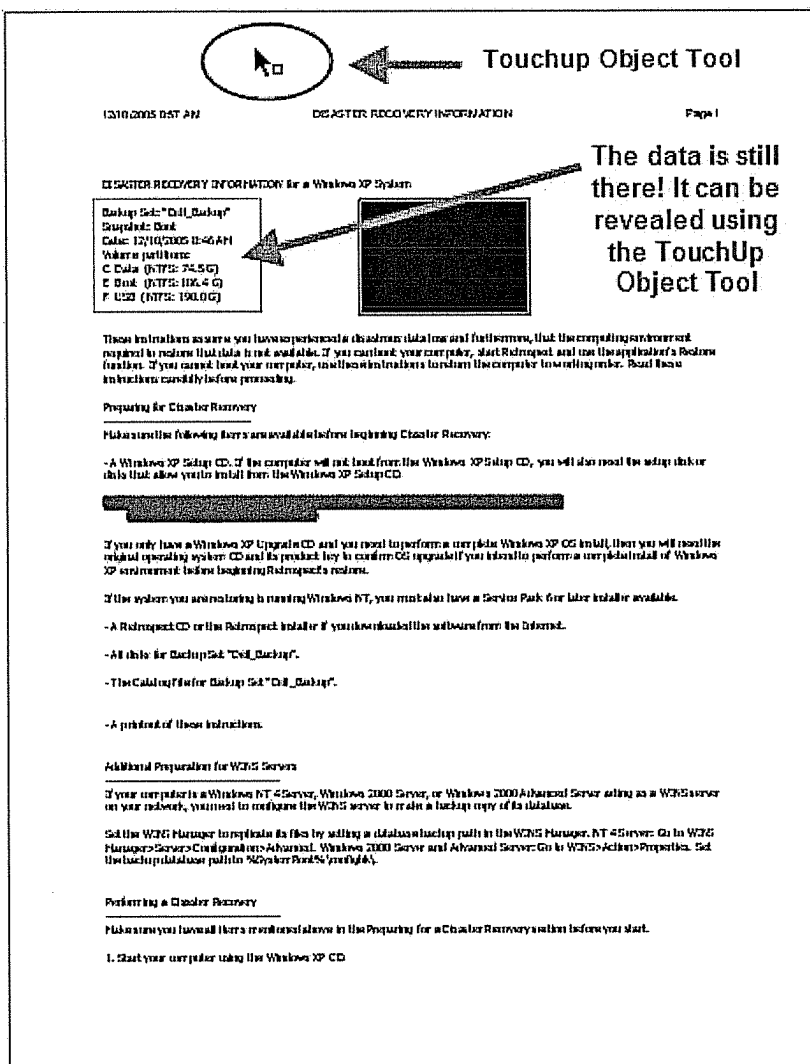
Acrobat will produce a new PDF without markups. However, the information is still there underneath the boxes representing the markups.

Prove it Yourself

You can test this yourself! Here are three files you can use:

1-Original File without annotations | 2-File with Annotations | 3-File printed to AdobePDF print driver

1. Open up the File Printed to the AdobePDF print driver (#3 above)
2. Go to Tools-->Advanced Editing-->Touchup Object Tool
3. Click on one of the "redacted" objects and hold down the mouse to move it
4. Aha! There's the data!



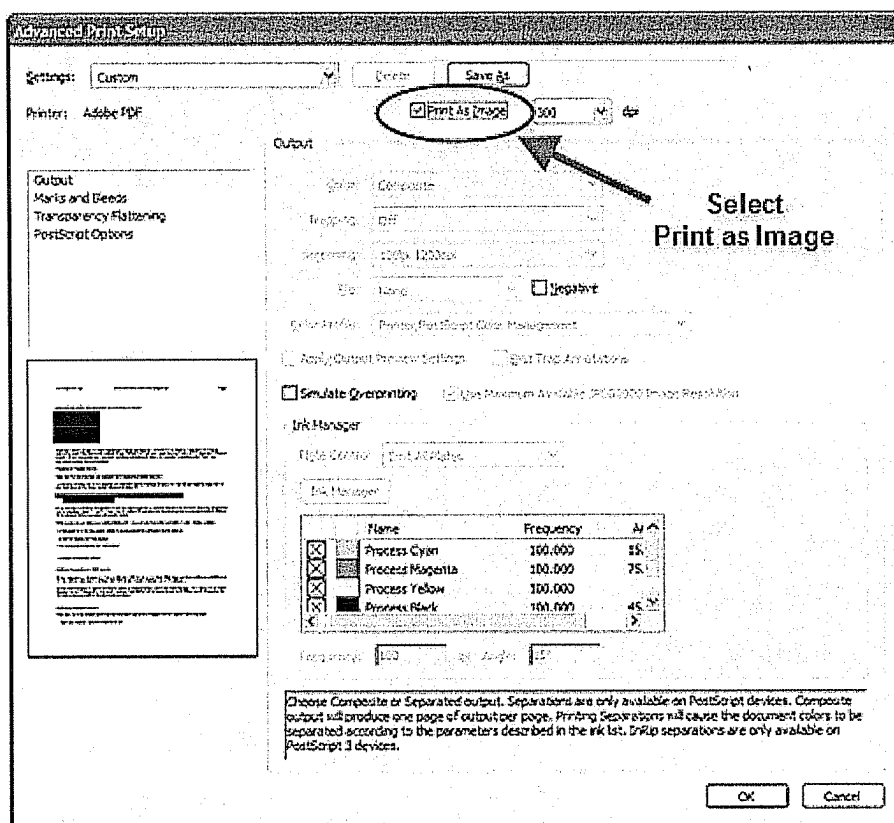
Notes, Complications and a Not Very

Good Workaround

In my research, I've discovered a few tidbits that you might find helpful.

If you want to print annotations, you must go to Edit-->Preferences-->Commenting and enable "Print Notes and Pop-ups"

The AdobePDF print driver offers a "Print as Image" option. This does a decent job of emulating the results you would get from saving to TIFF. To try this yourself, go to Print and click the Advanced button at the bottom of the Print Window.



An issue that I have identified with this workflow is that the resulting PDFs are greyscale and pretty big (about 80K a page).

For some reason, certain PDFs can't be printed with annotations showing unless Print as Image is selected. I believe that the application used to create the original PDF (which many not always be from Adobe) has a bearing on this, but more testing is required.

Summing it Up

Improper redaction can lead to censure and malpractice . . .
take this subject very seriously!

As mentioned in my last article, the best way to redact PDFs is
to use a redaction plug-in from [Appligent](#) such as [Redax](#) or
[Redax Lite](#).

Remember, just because data isn't immediately visible in a PDF,
doesn't mean it isn't there. Taking shortcuts to save a bit on
buying a plug-in for Acrobat isn't worth it.

Posted by [Rick Borstein](#) at 12:22 PM on February 06, 2006

[<< AdobePDF Print Driver vs 1-button PDF Creators: Which to use?](#) [Home](#)
[The Typewriter Tool \(semi-new!\)](#) [>>](#)

EXHIBIT C

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JUNE 2006

Redacting PDF files: A survey of tools

by Duff Johnson, CEO, Document Solutions, Inc.

Introduction

The ability to conceal text or images using correction fluid is an essential feature of paper, the original portable document format. The process of information removal is formally known as redaction.

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In a sense, redaction is a horizontal process, since almost everyone removes private or sensitive content from a document at one time or another. More common where national security, privacy and liability concerns are paramount, redaction is often a mandated workflow for releasing sensitive government documents, legal papers, financial and scientific documents, medical records, human resources and many other applications. The grease-pen, razor-blade, document

tape and magic-marker industries still rely on redactors for some significant portion of their sales volume.

Adobe Systems launched the Portable Document Format in 1993, and the success of the format derives in large part on the inherent reliability of its "what you see is what you get" nature. One might be forgiven for thinking that after 13 years and close to a billion dollars in annual revenue, no-brainer PDF redaction would be a basic feature of the company's Acrobat software. Such is not the case. "Adobe predicted significant potential liability and limited market opportunity in a professional-strength, PDF-redaction tool," says Appligent founder Mark Gavin. To date, Adobe has opted not to include redaction tools directly in Acrobat. Instead, Gavin says, they asked Appligent to consider developing a plug-in that would not only redact PDF, but also provide powerful automation to assist in speeding the redaction process. The first version of Appligent's Redax was released in 1996.

Even now, the only way to effectively redact using Acrobat Standard or Professional amounts to a clunky (if effective) workaround, described in exacting detail by Adobe's Rick Borstein.



3 Redax ISIToolBox Advanced

Draw Box

The inability to properly redact in Acrobat 7 seems strange because Adobe has paid so much attention (not all of it successfully) to Acrobat's Commenting features, which in many user's minds can easily "look like" proper redaction. The **Highlight** feature, for example, may be used to cover text with a black box, but nothing actually gets redacted unless the page is saved as an image and the PDF re-created from that image. Indeed, the word "redact" does not appear in the Acrobat Help file at all.

Confusion about what constitutes real redaction has led to some significant misunderstandings. Blacked-out text looks redacted on screen and in print – so is it? No! See [this example](#) [PDF: 13 KB]

Responding to these concerns, the National Security Agency (NSA) recently released an advisory document entitled 'Redacting with Confidence,' [PDF: 665 KB] but the advice simply ignores the commercial availability of fully capable redaction software. Following publication of NSA's document, Appligent released [Correcting the Record](#), [PDF: 297 KB] a white paper that authoritatively details misconceptions about PDF redaction, and how to avoid them. In March, 2006, Adobe released [Redaction of Confidential Information in Electronic Documents](#) [PDF: 628 KB] on the subject as well.

Thus far, the way has been left open for third-party developers to try their hands at meeting the needs of would-be PDF redactors. Appligent is one of the few companies to have delivered true PDF redaction. The technical issues in properly redacting text, raster images, vector images, tags and text-under-the-page-image are not trivial. PDF files can be very complex, which makes the mechanics of PDF redaction a challenge to develop.

As a result, most software developed for redaction purposes doesn't deal in PDF per se at all, but must convert PDFs to images prior to the redaction process. This approach, while relatively easy to implement, strips all the non-redacted text from the PDF, usually damages the appearance of photographs and other images and often results in increased filesize.

For government applications, this method is also especially problematic because the output does not and cannot (absent an OCR-and-tagging process) comply with Section 508, which requires that all non-redacted text be available to screen-reader software, and further, requires that redactions themselves be accessible rather than simply treated as a blank spot in the document. So far, only Appligent delivers serious, stand-alone redaction software that keeps PDFs "as they were" in all respects – minus the redacted information, of course.

PDF redaction tools

There are three basic types of tools for redacting PDFs:

1. Those that redact PDFs natively, without requiring conversion to an image: **True PDF Redaction**
2. Those that supply purpose-built tools for performing redaction on image files: **Advanced Redaction**
3. Those that leverage Acrobat's Commenting features by burning comments or other overlays onto a rasterized PDF: **Redaction via Comments**

Let's survey the current offerings:

True PDF Redaction:

[Redax 4.0](#), by [Appligent](#) (US)
Windows and Mac

Redax is the standard against which all PDF redaction software must be measured. The application rewards either a structured or *ad hoc* approach with the most efficient, powerful and flexible PDF redaction option available. Now in version 4.0, Appligent offers two Acrobat plug-ins, Redax and Redax Lite, and the stand-alone Redax Enterprise Server. The software is also licensed for integration into several high-end document-management and litigation-support packages.

Intended (and priced) for professional use, Redax offers a crisp, no-nonsense method fully integrated into Acrobat. Redax permits complete control over the appearance of redacted sections, workgroup management, the inclusion of Freedom of Information Act (FOIA) and other exemption codes, multi-page and annotation redaction, text and pattern matching and complete reporting. The plug-in works equally well on both electronic-source and scanned-source PDF files with OCR'd text, redacting only what's needed without burning the entire file's text to an image. Redax Enterprise Server deploys the power of Redax using command-line, watched folders and web-services models for automated redaction processing.

Redax is unique in that it redacts PDF files properly, without converting the entire page to a raster image. Thus, only with Redax can you redact a document and retain searchable text, scalable fonts and all the other advantages of electronic documents on the unredacted content. Because Redax works natively within Acrobat,

PDF documents may be redacted over time by different users, with the redactions only committed to the file after a comprehensive review.

Since Redax copies the open document to a new file before actual redaction occurs, the tool protects the original PDF, and also eliminates all traces of metadata from the redacted document.

True PDF Redaction:

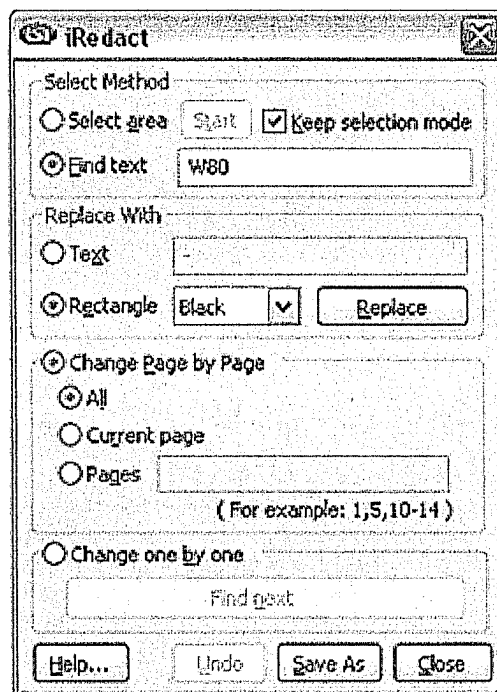
ISIToolBox Professional 5.5, by Image Solutions, Inc. (US)
Windows

ISIToolBox Professional is a multi-function Acrobat plug-in with many PDF management functions. One tool in the ToolBox is a modest redaction capability called iRedact.

Compared to Redax, the iRedact feature in is simplistic – there's no facility for loading lists of words, pattern-matching, FOIA codes or any of Redax's many other features. With iRedact, users draw boxes on the screen to redact content with white or black. They may also perform a find-and-replace, converting individual words to a standard text string or displaying the redaction via a white or black box.

Unlike, Redax, iRedact doesn't use annotations to preview redaction work – redactions are applied directly, and therefore there's no undo facility.

iRedact performs redactions in the currently open document, so document metadata goes unredacted. Use of iRedact should always occur on copies of the original PDF to minimize the risk of damage to the original document from thoughtless saving.



Advanced Redaction:

Rapidredact, by OnStream Systems (NZ)
Windows

Unlike Redax and ISIToolBox, Rapidredact is not an Acrobat plugin; it converts Office documents, images and PDF files to TIFF or JPEG images, displaying the results in an image-viewer intended for a manual-redaction process.

As such, the program is quite limited, since it rasterizes (converts to an image) any PDF loaded into it. Words or phrases to be automatically redacted must be input before the file loads – any redaction after loading into the viewer must occur manually.

Rapidredact's output is a TIFF-based PDF, no longer scalable or searchable. The interface includes a variety of useful redaction tools and it's easy to use. Because it converts every document into a image file before beginning manual redaction, Rapidredact works on both electronic-source PDFs and scanned-source PDFs.

The main advantage Rapidredact has over the redaction-via-Comments method in Acrobat is the text-search-and-redact feature. This, along with the nifty Scribble tool (that works just like a magic marker) and the ability to add exemption codes to redactions make Rapidredact the only desktop application to even approach Redax's capabilities.

Redaction via Comments:

Acrobat Standard or Professional 7.0x, by Adobe Systems (US)
Windows and Mac

Adobe Acrobat, while not actually including a redaction tool per se, does make it possible to redact a PDF without sniffing grease-pencil or magic-marker fumes.

If occasional manual redaction is all you need, then Acrobat's Commenting tools may be used to add black

highlighter or boxes, followed by a "Save As" to TIFF, followed by converting the resulting TIFF back into a PDF. If that sounds tedious, your instinct is correct. It does work, however, and all that's required is the full version of Acrobat. See Rick Borstein's [article on the subject](#).

Redaction via Comments:

PdfCompressor 3.1, by CVISION Technologies (US)

Windows

PdfCompressor isn't a redaction tool per se, but focuses instead on image compression and OCR. Used in conjunction with blackout Acrobat comments, the application can open marked-up PDFs, convert them to image files, and optionally, perform high-quality OCR to revive the unredacted text before saving to PDF. On output, PdfCompressor allows the user to control all manner of PDF settings, and the engine may be run in batch, through watched folders, or via the command-line.

Redaction via Comments:

PDF Enhancer, by Apago (US)

Windows and Mac

Server versions available for Solaris and AIX

Like PdfCompressor, PDF Enhancer isn't a redaction tool as such, and it doesn't include a method for selecting text or images. Nonetheless, PDF Enhancer can be useful for redaction purposes because, like PdfCompressor, it can batch process marked-up PDF files, converting them (via rasterizing each page) directly to fully redacted PDFs while skipping the save-to-TIFF-and-covert-back-to-PDF step. Like PdfCompressor, PDF Enhancer facilitates control over the output image resolution and compression, so post-redaction file sizes are easily managed within the same application. Unlike PdfCompressor, PDF Enhancer does not include the ability to OCR your new redacted, image-based PDFs.

Conclusion

For those who need to remove information from electronic documents, it's a shame that Adobe has yet to offer even a basic redaction solution that doesn't depend on burning a perfectly good electronic-source PDF file to a crude TIFF or JPEG image. Even without a feature-rich solution like Redax, an elementary "select and black out" redaction option in Acrobat would be most welcome. Failing that, users requiring redaction solutions for PDF are limited to two basic options: true PDF redaction via a tool such as Redax, or converting PDF to TIFF to "burn in" Comments.

Either way, you can get the job done without printing to paper and breaking out the grease pens.

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JUNE 26, 2006

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May 25, 2005

PDF Redaction -- some Q&A

A couple weeks ago a reporter contacted me regarding the PDF-related aspect of the story of the [US Army report](#) on the killing of an Italian agent in Iraq. I'm not sure if he's going to get published, or if I'll get a sound-bite in his final article, so I thought I'd post an edited version of our email "interview."

-How was this mistake made with the PDF by the military?

It seems like a lack of fundamental knowledge about the structure of a PDF file, and what you can and can't do with the various Acrobat tools. As I tell lawyers, it is helpful to visualize that PDF files, like onions (and ogres), have "layers." With a paper document, drawing across text with a black marker doesn't *remove* the text, it just obscures it. In the case of a PDF file, it is possible to either remove the cover-up markings, or, as the reports of this case implied, slip the text out from under the covers.

-Is it a common mistake?

Unfortunately, it seems to be. I don't have any stats on how often it happens with lawyers, but there have been several high profile instances in the

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About this weblog

Acrobat 6.0

David L. Masters: The Lawyer's Guide
to Adobe Acrobat, Second Edition

NEWSLETTERS

Newsletter Issue No. 1

past few years. It's not just the military -- both the Washington Post (the Washington sniper notes) and New York Times (a CIA document) have each managed a similar snafu. DOJ did it awhile back too.

-How do you avoid it?
You could print your redacted documents to paper . . .

First, there are tools on the market that deal specifically with this task. A company named Appligent sells one called "Redax" that is widely used by federal agencies.

Second, learn about and understand your tools. Get some training; implement some quality control in your organization; standardize a workflow; employ a geek that knows and cares about security. This isn't the result of some sort of hidden flaw in the PDF format or the Acrobat application.

-How do you protect your documents?
If I produced redacted things, I would use a commercial tool that does that task well, and make it part of my workflow. Just locking them with password protection isn't going to do the job -- you have to remove the text.

-Were you aware of this potential problem with PDF?
Hell, yes I was aware that using a black high-lighter tool in Acrobat doesn't "redact" anything. However, I think it is inaccurate to characterize this as a "potential problem with PDF." The issue is not with the file format, or with Acrobat.

Acrobat 7.0
Acrobat 8.0
Bookmarks
court links
Create PDFs
Digital Signatures
Discovery
eFiling
Forms
Gen. Legal
Humor/Fun
Metadata
Observations re: technology
OCR/Paper Capture
PDF: Advanced
PDF: Basic
PDF: Intermediate
PDF Presentations
Presentation
Products & Plug-ins
Scanners
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Workflow

PDF LINKS

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Appligent
General PDF Info
PDF News & Tips
PDFzone
Planet PDF
TechnoLawyer

I'd characterize it as a lack of skills and awareness on the users' part, which is generally related to a lack of training, lack of curiosity about and time to use and understand the tools, and also to a failure by organizations to provide proper tools and methods. Hey, somebody at CentCom IT must have been aware (I hope!) that you can't redact a document in this fashion, but either the proper tools weren't available, the user didn't know they were available, or he didn't have access to them.

There was a lot of nerd-chatter about what bone-head the user must have been, but I think it was primarily a failure at an institutional level -- it's not like this type of file goes out into the world (unless it's leaked) without a *whole bunch* of people approving it. But in all the approval process, where was the "quality control" that asked "is this document properly secured?" Where was the geek that should have QC'd it for security? The print industry spends a huge amount of money and effort assuring that a PDF has all the right fonts embedded in it -- so why don't legal and government institutions have even cursory checks for things like document security, metadata removal, etc.?

-Do you think the general public is aware?

I'd say not, based on recent events. I would assume that some (many? most?) users of Acrobat 6 (who are definitely *not* the general public) are similarly unaware of how properly to use the software. This isn't some solo practioner in East Poisonspider, Wyoming screwing

up -- this is the US Army, NY Times, Washington Post, etc.

-What could some of the consequences be if a document you thought was properly redacted could actually be read in its entirety?

Most documents are redacted to remove privileged information, or confidential business or personal information. From a legal/litigation standpoint, you certainly have some serious issues with privilege claims. But, as with redacting with a magic marker that redacts poorly and allows the underlying text to be read, what are you gonna do? Even if the information can't be admitted in evidence in a proceeding, it doesn't mean it's not useful to other parties.

I haven't seen any cases where an attorney faced a malpractice claim for failing to understand the basics of his office software, but surely that day must come. There are certainly penalties for government entities and personnel that violate the Privacy Act and other statutory and regulatory requirements.

Plus, you look inept, which can't be good from a professional standpoint.

-- Dave

03:47 PM in [PDF: Basic](#) | [Permalink](#)

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» [Dumars: Re-Signing Ben Is Top Priority](#) from a desire to pry a message to all the teams that might

be harboring a desire to pry Ben Wallace away from the Pistons this summer. Don't waste your time. [[Read More](#)]

Tracked on May 28, 2006 9:36:41 AM

» [UCC president will retire in January](#) from of University College Cork, Professor Gerry Wrixon, has announced that he is retiring next January. [[Read More](#)]

Tracked on May 30, 2006 11:24:27 PM

» [Del. Teacher Charged With Raping Student, 13](#) from with having sex teacher charged with having sex with minor, allowing friend to watch and distributing alcohol to a minor, authorities said. [[Read More](#)]

Tracked on Jun 5, 2006 10:57:24 AM

» [Lorelle: Keyword Discovery \(Keyword Research\)](#) from expect to see [High Rankings Search Engine Optimization Forum] In doing research in KD, Ive noticed [[Read More](#)]

Tracked on Jun 6, 2006 4:10:25 AM

» [Election Blog Spot Goes Up For Sale on eBay](#) from discussion about of millions like the topic of politics and political elections. As this upcoming political season [[Read More](#)]

Tracked on Jun 7, 2006 7:41:57 AM

» [Netscape 8: I'm Not Dead Yet!](#) from design, and a and a few extra features form the beta such as the Trust Rating system. We'll take it for a spin over the [[Read More](#)]

Tracked on Jun 7, 2006 3:17:03 PM

» Great-Grandmother Gives Birth at 62
from anise Wulf Is
anise Wulf Is the Fourth-Oldest Woman
Known to Have Given Birth [[Read More](#)]

Tracked on Jun 8, 2006 5:00:18 AM

» Special Care Keeps Nursing Home
Residents Out of Hospital from Home
Residents
Out of Hospital Category: Health News
Created: 6/7/2006 1:57:00 AM Last
Editorial [[Read More](#)]

Tracked on Jun 11, 2006 9:35:34 AM

» Entrepreneur Facing Bankruptcy
Leaves Sub Franchise for More
Enjoyable Lifestyle Working From Home
from knowledge of
Ohana has easily started a home based
professional business working from
home. (PRWEB Jun [[Read More](#)])

Tracked on Jun 11, 2006 7:42:43 PM

» Jahnke: Outcome Will Shape Pistons'
Legacy from FREE PRESS writes,
won those games. Tonight's result will
go a long way in answering a question
that has bubbled to the surface since
[[Read More](#)]

Tracked on Jun 15, 2006 3:52:04 PM

» Britain vows to imprison the tyrants of
Africa - Times Online from Post Liberia:
Liberia: Taylor headed for United
Kingdom SomaliNet New York Times -
Financial [[Read More](#)]

Tracked on Jun 16, 2006 5:17:39 AM

» [Home Depot Criticized For Pledging \\$10 Billion To American Cancer Society For Every Padres Home Run](#) from Depot has come
Depot has come under fire from cancer patients, baseball fans, and Padres players for the company's... [\[Read More\]](#)

Tracked on Jun 18, 2006 12:27:45 AM

» ['Idol' Winner Studdard Awarded \\$2M in Suit](#) from Ruben Studdard
his ex-manager for misappropriating the singer's money and credit cards.
Studdard, [\[Read More\]](#)

Tracked on Jun 19, 2006 4:26:10 AM

» [Person of the Week: John Lloyd Young](#)
from ony Winner Went
ony Winner Went From Usher Post to
Acceptance Speech [\[Read More\]](#)

Tracked on Jun 28, 2006 9:41:03 PM

» [Japan elderly population ratio now world's highest \(Reuters\)](#) from an aging population,
deal with a falling birth rate and an aging population, said on Friday its ratio of elderly people to total population was now the world's highest, [\[Read More\]](#)

Tracked on Jun 30, 2006 3:14:47 PM

» [Cingular Wireless Refutes Claims In Consumer Group's Suit](#) from after Friday's
closing bell said it is refuting points made in a lawsuit against the compan... [\[Read More\]](#)

Tracked on Jul 13, 2006 3:09:30 AM

» Heat, Flat Tires and Bullets in Iraq
from ne Reporter's
ne Reporter's Trip to Abu Ghraib Stalls
on the Road [[Read More](#)]

Tracked on Jul 21, 2006 2:11:21 AM

» Student Created Firefox Commercial-
mockup from blog, it's just
entry. Thanks to Gerv for finding it, and
thanks to Eric Edwards for making a
fantastic [[Read More](#)]

Tracked on Jul 21, 2006 10:50:08 AM

» Chronic Pain Sufferers Find Relief
With Energized Water from by balancing
of environmental pollutants. (PRWEB
Jul 15, 2006) Trackback URI:
<http://www.prweb.com/zingpr.php/RW1wdC1IYWxmLULuc2UtU3F1YS1JbnN>
[[Read More](#)]

Tracked on Jul 22, 2006 2:32:20 AM

» US oil firms get little play at Bush-
Putin meeting from help develop
natural gas field, Bush's national
security adviser said. [[Read More](#)]

Tracked on Jul 22, 2006 6:56:01 AM

» Heat Re-Sign Dwyane Wade from
averaging 34.7
NBA Finals MVP after averaging 34.7
points, 7.8 rebounds, 3.8 assists and
2.67 steals in the [[Read More](#)]

Tracked on Jul 22, 2006 10:00:07 AM

» Community Spirit May Prevent Teen
Pregnancy from teen pregnancy
states. Social capital has also recently
been shown to affect child welfare,
violent behavior, AIDS, diabetes and
even the common cold. [[Read More](#)]

Tracked on Jul 22, 2006 7:02:55 PM

» Bulls Sign Free Agent Ben Wallace
from the team has
announced this afternoon the team has
signed free agent forward Ben Wallace
to a contract. Per team policy, terms of
the contract [\[Read More\]](#)

Tracked on Jul 24, 2006 7:19:54 AM

» Nene Deal Needs More Time from
contract July
Nene still is working on renewing his
vows with the Nuggets, writes Aaron J.
Lopez of the ROCKY MOUNTAIN NEWS.
Nene [\[Read More\]](#)

Tracked on Jul 24, 2006 11:08:17 AM

» Sopranos Shannon Mercer and Jane
Archibald Win Five-Figure Awards from
Canada Council from Darryl Friesen
Christianne Rushton are the 2006
winners of the Canada Council for the
Arts prizes for young Canadian
musicians, the Council has [\[Read More\]](#)

Tracked on Jul 24, 2006 10:58:07 PM

» CIBER Completes JD Edwards Upgrade
for AstroMed from CBR), today
announced
resource planning (ERP) upgrade
project for Astro Med, Inc., a Rhode
Island based manuf... [\[Read More\]](#)

Tracked on Jul 25, 2006 10:32:24 AM

» Can Diabetes Meds Fight Alzheimer's?
from help treat and/or
may actually help treat and/or prevent
Alzheimer's disease, a progressive brain
disorder that affects about 4.5 million
[\[Read More\]](#)

Tracked on Jul 26, 2006 8:52:06 PM

» [Intel Shuffles Top Executives](#) from simplify the executives to new positions as part of a corporate restructuring designed to simplify the [\[Read More\]](#)

Tracked on Jul 27, 2006 12:23:22 AM

» [Bush Vetoes Stem Cell Bill As Promised](#) from Uses First Veto Uses First Veto of His Presidency to Strike Down New Stem Cell Bill As Promised [\[Read More\]](#)

Tracked on Jul 27, 2006 10:36:39 AM

» [Report: Wizards Add Power in Songaila](#) from Washington Wizards yesterday by agreeing to terms on a five-year contract worth around \$21 million [\[Read More\]](#)

Tracked on Aug 1, 2006 2:11:04 AM

» [Athens Memories Fuel U.S. Stars](#) from next act, Carmelo Anthony took the court Wednesday as star players in the next act, writes Lynn Zinser of the NEW YORK TIMES. They [\[Read More\]](#)

Tracked on Aug 1, 2006 10:25:11 AM

» [U.S. to move 3,700 troops to Baghdad \(AP\)](#) from and a U.S. official AP - The U.S. command announced Saturday that it was sending 3,700 troops to Baghdad to try to quell the sectarian violence sweeping the capital, [\[Read More\]](#)

Tracked on Aug 1, 2006 1:51:39 PM

» State, U.K. strike emissions deal, bypassing Bush from Gov. Arnold Schwarzenegger resisted addressing global warming -- signed a partnership Monday to share technology and scientific research aimed at... [\[Read More\]](#)

Tracked on Aug 2, 2006 6:29:39 PM

» Salesman Accused Of Faking Son's Death from at an Atlanta by claiming his 3-year-old son was dying of cancer, only to be exposed as a fraud when the firm tried to send flowers. [\[Read More\]](#)

Tracked on Aug 4, 2006 12:11:06 PM

» States, Cities, and Counties Win Mobile GIS and GPS Grants from and Trimble Announce and Trimble Announce Recipients of Mobile Government Grants for Coastal Communities [\[Read More\]](#)

Tracked on Aug 8, 2006 10:20:19 AM

» Arrests in VA laptop case please congressman from on July 20. The was recovered in June. FBI forensic tests indicated a good probability the data had not been compromised. [\[Read More\]](#)

Tracked on Aug 9, 2006 7:57:32 AM

» Add Dwayne Wade to the List from in all three NBA CHAMPIONSHIP on the line. Amazing. The playoffs this year have been absolutely phenomenal, [\[Read More\]](#)

Tracked on Aug 9, 2006 3:16:38 PM

» [Shared Spaces: Parlano Mobile Is Coming](#) from ago, Parlano the majority of knowledge workers are mobile at some point during the day, and being disconnected from group-oriented [\[Read More\]](#)

Tracked on Aug 14, 2006 9:24:50 PM

Comments

One rather easy way to have avoided this problem would have been: after making the obliterations, print the PDF file using pdfFactory or another similar product to create **another PDF file** representing an e-version of the original as printed.

Posted by: [Mr. Sean Fosmire](#) | May 27, 2005 3:03:36 AM

I have instructed my staff to ensure that they print the redacted .pdf for production. If you 'show comments' on the print job, you redact. I would not send a redacted .pdf to opposing counsel.

Posted by: [Traverse City Attorney](#) | May 27, 2005 1:40:26 PM

I'm not sure what Mr. Fosmire means by "creating another PDF file." If by doing so you essentially create an image-only file, I guess that would work. I'd have to know more about it before being comfortable with doing it that way.

Printing a hard copy will certainly do the trick. Be quite sure you have no **other** comments that show up! This method will pose a problem if you are producing huge amounts of documents, or if you have to e-file it (I guess you

could print and re-scan). The great advantage of paper is that what you see is what you get.

Appligent's Redax apparently works by extracting the highlighted text from the file entirely, and replacing the area with a block of color. It seems to be the product of choice for high volume jobs. For example, a government agency that is responding to a FOIA request may have to produce a zillion documents to a gaggle of requesters. It makes sense (tax money-wise) to do that electronically rather than on paper.

I agree that people should be very, very careful if they produce a redacted pdf to anyone.

Posted by: [Dave Fishel](#) | May 27, 2005 2:06:14 PM

We've been very cognizant of this issue and recently purchased Docudesk's deskPDF. Their new system in 2.5 has built in profiles which allow users to set different settings (i.e. internal PDF / external PDF / court PDF /etc.). It also integrates with Active Directory for Administrative control of the various settings and profiles.

While creating a "flattened PDF" image would work you lose the ability to do contextual search.

Posted by: [Richard](#) | Jun 16, 2005 3:42:26 AM

I found the company referenced above intriguing and thought I would share the link I hunted down for them.
www.docudesk.com

Posted by: [council4baytown](#) | Jun 17, 2005 1:11:13 PM

Post a comment

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Comments:

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EXHIBIT E

Jim Calloway's Law Practice Tips Blog



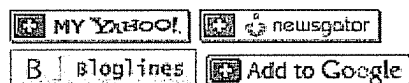
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- Marketing
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- Oklahoma Bar Association
- Processing Words
- Productivity Tips
- Products and Gadgets
- Risk Management
- Starting a law practice
- Technology Trends
- Time Management

« Site of the Week:Lifehacker.com | Main | The Lawyer's Bank Account

Redaction of PDF files

Redaction is the removal or obscuring of certain text before releasing to the public. With paper documents, it is pretty simple. Just take a black marker and color over the text and then make a photocopy of it. Redaction in PDF documents doesn't work quite the same way. Recently the Pentagon report in PDF format about the Bagdad shooting of an Italian car spir hostage to the airport. Many items, including soldier's names, were replaced by black boxes over them. It was fairly easy for anyone to access improperly redacted information.

I recently learned from Adobe about some real and effective PDF redaction from Appligent.com. The products are not cheap, but if you are redacting documents you are going to distribute, you want to do it right.

May 26, 2005 in Processing Words | Permalink

TrackBack

TrackBack URL for this entry:
<http://www.typepad.com/t/trackback/2513261>

Listed below are links to weblogs that reference Redaction of PDF files

» "Microsoft Releases Word Redaction Tool" from Stark County Law Library
Jim posts: ?Microsoft has released a new free add-in tool which allows redacting MS Word 2003 Documents before distributing [Read More]

Tracked on August 12, 2005 at 10:11 AM

Trials and Presentations
Weblogs
Website of the Week

Archives

December 2006
November 2006
October 2006
September 2006
August 2006

All Archives »

The Obligatory Blog Roll

DennisKennedy.blog
Digital Practice of Law
Ernie The Attorney
Inter Alia
Law Practice Today
Lawtech Guru Blog
Legal Marketing Blog
Legal Sanity
My Shingle
Netlawblog
PA. Law Practice Management
PDF for Lawyers
Reid my Blog
Risky Biz
Robert Ambrogi's LawSites
The Practice
beSpecific
the [non]billable hour

Oklahoma Blawggers

Benefitsblog
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Research Member Benefit

Google Patent Search

Congratulations! You were
named Time Magazine's Person
of the Year

Site of the Week: Wolfgang's
Vault

Adobe Acrobat 8 Legal Resource
Guide

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EXHIBIT F

Lori DeFurio

March 14, 2006

New article on Redaction

Adobe's developer technologies team has posted a document on how to remove sensitive information from a PDF:

<http://partners.adobe.com/public/developer/en/acrobat/Redaction.pdf>

Posted by [Lori DeFurio](#) at 03:36 PM on March 14, 2006

[<< Security Solutions: Integrator Tips and Tricks Workshop](#) [Home](#) [Acrobat 3D](#) [Workshop >>](#)

Comments

[John Dowdell](#) — 10:43 PM on March 14, 2006

Hi Lori -- I didn't see mention of Appligent's Redax in there -- from what I understand this extension is a de facto standard at various US federal agencies -- how does Redax fit within the total set of needs described in this document?

tx, jd

[Lori DeFurio](#) — 10:58 PM on March 14, 2006

Ah... no one is perfect - including Adobe Systems. The omission of Redax was an "accident".

Redax is a very integral part of many PDF redaction workflows, and used by many federal agencies to adhere to the Freedom of Information Act (FOIA).

The document is being updated as we speak, and I'll repost to this blog when the updated version is live.

[Leonard Rosenthol](#) — 07:58 AM on March 15, 2006

Another 3rd party tool that is very useful for helping in the redaction process is PDF Enhancer.

First, if you wish to use the "Convert to Raster" method of Redaction instead of using a native tool like Redax, then PDF Enhancer can do the whole thing automatically via its "Selective Rasterization" feature.

BLOGS.ADOBE.COM

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The views expressed in these are my own and do not necessarily reflect the views of Adobe Systems Incorporated.

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Search this site:

Duff Johnson — 05:29 PM on March 15, 2006

Comment:
(You may use HTML tags for style.)



EXHIBIT G

Internet Explorer browser window showing a webpage titled "Sound Evidence Discovery Resources". The address bar displays "http://soundevidence.discoveryresources.com". The page features a navigation menu on the left with categories like "TOPICS" (Cases, Collaboration, Events, Forensics, General Information, Industry, Metadata, Non traditional ED, People, Preservation, Privilege, Productions, Rules, Legislation, SEC, Technology, Voice recordings) and "SUBSCRIBE" (RSS, My Yahoo!, MyFeedster, MyWebster). The main content area displays an article titled "PDF redaction lapse" dated "05 | 3 | 2005", posted by "Mary Mack", with "Comments / Questions (0)". The article text discusses a military document redaction issue, mentioning John Landwehr, Adobe's director of security solutions, and the use of Adobe Acrobat Reader. It also mentions Albert Barsocchini at Guidance Software and Dennis Kennedy's experiments with Adobe. The page footer shows "Done" and "Internet" status.

Internet Explorer browser window showing a webpage titled "Sound Evidence Discovery Resources". The address bar displays "http://soundevidence.discoveryresources.com".

The page features a navigation menu on the left with categories like "TOPICS" (Cases, Collaboration, Events, Forensics, General Information, Industry, Metadata, Non traditional ED, People, Preservation, Privilege, Productions, Rules, Legislation, SEC, Technology, Voice recordings) and "SUBSCRIBE" (RSS, My Yahoo!, MyFeedster, MyWebster).

The main content area displays an article titled "PDF redaction lapse" dated "05 | 3 | 2005", posted by "Mary Mack", with "Comments / Questions (0)".

The article text discusses a military document redaction issue, mentioning John Landwehr, Adobe's director of security solutions, and the use of Adobe Acrobat Reader. It also mentions Albert Barsocchini at Guidance Software and Dennis Kennedy's experiments with Adobe.

The page footer shows "Done" and "Internet" status.

EXHIBIT H

Redaction of Information

Last updated: 05/02/05

General Order 53 states in part that parties must refrain from including, or must redact where inclusion is necessary, all **Social Security numbers, names of minor children, dates of birth and financial account numbers**. E-filers must use extra care to make sure that the PDF documents to be submitted to ECF are fully and completely free of any hidden data which may contain redacted information.

A common error in redacting information is to use the wrong method to redact the electronic file. Below is a partial list of methods **NOT** to use:

1. Changing the font to white does make it look like the words disappear, **but they don't!** Highlight (click & drag your mouse over) the sentence below to see what can happen with this method (the words are really there):

Mrs. Lincoln said that John Wilkes Booth shot her husband.

2. All word-processing programs (such as Microsoft Word, Corel WordPerfect, WordStar, etc.) retain a lot of hidden code (called "metadata") that can contain revision history and other information. This metadata can reveal anything that was contained in the file at any time, even text that was previously deleted or changed, and even if the file was re-saved. This is a useful tool for tracking revisions, but if this information is not purged from the document, anyone can view this information, even after it has been converted to PDF.
3. Adobe Acrobat (the full version) has some graphic and "commenting" tools which can black-out, cover over or remove sections of text. The edits these tools make can still be removed by anyone to reveal the text underneath.
4. Ink-marking or using semi-translucent tape or paper to cover areas of a document to be scanned can still sometimes show enough information for someone to see what was assumed hidden. Especially if that same data repeats a number of times across a document.

The court does not profess to be experts on file metadata, and we do not endorse any specific method to "sanitize" a document. There are a number of consulting and software resources which specialize in redaction of data if you need further information, but we do offer some examples of ways to ensure that your documents may be redacted as you intended:

1. **Redacting a Word-Processing File** (short version below):

The best way to redact your document is to make sure that the source contains no unwanted text or data to begin with. One way is to use a simple-text editor (such as Windows *Notepad* : Start>Programs>Accessories>Notepad) to create the final redacted version of the document. *Notepad* cannot save any hidden code, since it only uses simple-text (.txt) format. This format can only save basic text info (ASCII) so if it's in *Notepad*, "what you see is what you get", and nothing more. Here's how (we will assume for these instructions that you are using Microsoft *Word*, the same instructions work for WordPerfect, WordStar, etc.):

- A. In your original *Word* document, **replace** all the text you wish redacted with the word **[REDACTED]**, and/or do a FIND AND REPLACE of all the text you wish redacted.

Example:

Replace all instances of "**John Wilkes Booth**" with "**[NAME REDACTED]**", "**JWB**" or whatever you deem fit. Be careful that you do this for all instances and for all variants of the text you need to redact (if you do a find/replace for "**John Wilkes Booth**", it will not replace "**John Booth**" or "**John Wilkes Booth's**" or "**J. Wilkes Booth**" because those phrases are totally different to the computer!)

Save this as a new "temp-redacted" version, then...

- B. Copy all the text from *Word* and paste it into *Notepad**:
- A. Select all the text in Word
(type **Ctrl-A**, or click **Edit=>Select All**)
 - B. Copy all the text in Word
(type **Ctrl-C** or click **Edit=>Copy**)
 - C. Past all the text into Notepad
Start>Programs>Accessories>Notepad, or
Start>Run, type **notepad**, click **OK**.
To paste, type **Ctrl-V** or click **Edit=>Paste** into

Notepad. This will remove all hidden code from the document, but as you will notice, it will also remove most of the formatting (page numbering, tabs, justification, paragraph numbering/bullets, bold/italics/underlining, fonts, etc.). If you now PDF this *Notepad* document directly from within *Notepad*, the PDF file will contain only the info you see within *Notepad* and nothing more, so it is totally safe.

- D. Save this file in *Notepad* as the "text-redacted" version. It will now be a text (.txt) file.
- C. If you must reformat the document (usually you will), then you must re-open the "text-redacted" version back in *Word* because *Notepad* can not do any formatting. This is fine to do, but you **MUST** only do so in a **BRAND NEW BLANK FILE!** Do not place the text from *Notepad* back into the same *Word* file that it originated from. Here's how:
 - i. Save and close the *Notepad* file.
 - ii. In *Word*, select **File>Open**, then open the "text-redacted" text (.txt) version.
 - iii. You may then reformat the text however you need and save your work as the "final-redacted" version.
Be sure you do not change any text, just the formatting.
- D. This *Word* file you can convert to PDF and all it will contain is only the text and formatting you see on your screen. Convert/Save this file as the "PDF-redacted" version and efile it.
- E. The "text-redacted" and "temp-redacted" versions may now be deleted (and should be).

In a nutshell... (short version)

- A. Find & Replace all the text to be redacted in your original file and save it as a "temp-redacted" version.
- B. Copy all the text from the "temp-redacted" version and paste it into *Notepad*, save this as the "text-redacted" version and close it.
- C. Open the "text-redacted" version in your word-processing program, make any needed formatting changes, PDF this file and efile it.
- D. Clean up the temp files - DONE!

2. Redacting a Scanned File (tiff, jpeg, gif, etc.): This is a

little more tricky since you are modifying an "image" or photo of a file and the data which contains that image may not be fully removed or destroyed using common software tools. Check the support documentation of the software you use to manipulate graphics (such as Photoshop, Paint, etc.) to find if their tools are sufficient to redact a document. You may also want to consider printing-out the document and using method 4 below.

3. **Redacting a PDF File (scanned or converted):** This is the most delicate and difficult to do correctly. Adobe Acrobat (any version) by itself can **not** redact a document using any of the built in tools. There are plug-ins (add-on software) for Adobe which can do this, such as Redax. You may also want to consider printing-out the document and using method 4 below.
4. **Redacting a Paper Document:** Before scanning the document:
 1. Cut-out (literally) all the text to be redacted and properly dispose of (shred) the clippings. This method will always be 100% effective.
 2. Use opaque (100% impenetrable by light; neither transparent nor translucent) tape or paper to cover over the sections to be redacted. Do not use plain-paper as the scanner may pick up images through the paper. Even some black paper may allow some light reflection - so be careful.

If you would like more information, here are a few links:

[A New Generation of Redacting Tools](#)

[What can happen if a document is not redacted properly](#)

***NOTE:** Windows *Notepad* may not be able to work with large files. You could try working with the file in sections, or you could try using a different simple-text editor, such as Notepad2 (free), Crimson Editor (free) or others.

EXHIBIT I

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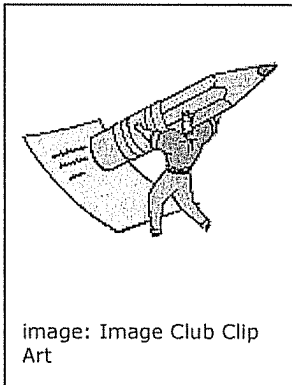


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A New Generation of Redacting Tools

Ari Kaplan
The National Law Journal
November 14, 2002



Failure to redact documents properly is not just a first-year associate's standard-issue nightmare. It's a potential crime and a malpractice mess, and it's coming soon to a courtroom near you.

Consider this: A few months ago, a California family reportedly filed a wrongful-death suit alleging that local officials failed to protect their son -- a witness in a criminal case who was killed -- properly. The family also blames the defendant's lawyer for -- get this -- not properly redacting documents given to the defendant relating to the son's contact information. And failure to redact

properly in this instance could be a misdemeanor in California.

Aside from shielding documents in California criminal cases because it is the law, redaction is a critical tool for government agencies responding to Freedom of Information Act (FOIA) requests; companies protecting proprietary information when filing for patents; and, of course, lawyers engaged in discovery or submitting exhibits in court.

It used to be that to redact a document, you took a black magic marker or sticky white tape and, voilà, problem solved. Today, however, redaction is a critical feature of document management, especially given heightened national security and personal privacy concerns post-Sept. 11.

In the digital age, many federal (and in some cases state and local) filings can be made electronically. According to officials at Adobe Systems, the maker of Acrobat and creator of the portable document format (PDF), approximately 200 to 300 government agencies, including courts, have adopted PDF as a standard electronic format. This means that in many cases, documents must be submitted in PDF, rather than in Microsoft Word or TIFF (the standard form used for scanned images). If they are submitted in PDF, they obviously have to be redacted in PDF.

HIDDEN DANGERS IN WORD DOCS

Unlike PDF and TIFF, Word retains hidden information within its documents to allow users to "undo" mistakes, resulting in security problems when electronically filing a Word document. Also, different versions of Word may not be fully compatible with each other. Then there is the continuing problem of proprietary formats -- Adobe has made the specifications for PDF freely available while Microsoft has not, complicating integration across platforms.

The leading redaction software for PDF documents, which retails for \$349, is

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First Name

Select State/Province

Select a Country

Select Practice Area

Redax 3.0, manufactured by Lansdowne, Pa.-based Appligent Inc. Lauded for its ease of use (as training takes less than an hour), Redax searches PDF documents and tags protected words, phrases or pictures. It then creates a new document in which the redacted text is completely deleted, preventing a reviewer from retrieving any eliminated data. At the same time, the program automatically creates a text file with all of the deletions preserved for future reference. Updates are made periodically to the software based on customer input.

Robert Dawson, an attorney at Dawson Law Chambers in Winnipeg, Canada, notes that Redax "allows a simple box to be drawn over the irrelevant information and a code to be inserted, referring to the specific court rule that justifies the redaction." It also gives him a way to protect his clients' confidential information as "documents that are filed as part of submissions to the court are publicly available."

According to Virginia Gavin, the company's president, the majority of Redax users are government agencies in the United States, United Kingdom and Canada. Smaller law firms and litigation support companies in these countries make up another 10 percent. Gavin notes that many law firms are currently redacting Word or WordPerfect documents by bracketing protected information and changing the text color to white, thereby hiding it from view. For paper submissions, this method is adequate; however, if such documents are filed electronically, the text can be recovered.

Gavin also notes that "the main reason government agencies, especially the courts, require PDF is that they need page numbers. Only PDF documents can be printed regardless of the printer and viewed regardless of the operating system, without page numbers (a key issue when cross-referencing is involved). According to Gavin, "larger law firms are now considering these [court-mandated] requirements."

While Lori DeFurio, developer evangelist for Adobe's ePaper technologies, comments, "Redax is the tool of choice when it says the word redaction," it is not the only game in town. There are several complete document management software products available that feature redaction for various formats as one aspect of a large suite of proprietary offerings. The beauty of Redax, though, according to Gavin is that "users are not constrained to any particular document management system or style. Documents can be incorporated into their existing processes."

The large software programs allow reams of paper to be scanned or loaded into a central database so that, for example, when preparing for a case, he can have ready access to a deposition transcript, prior trial testimony and memoranda from client meetings on his desktop. He can also store, organize, search and manipulate a myriad of other documents. The software is particularly helpful in creating disaster recovery plans.

Products like Reston, Va.-based Vrendenburg's VeFOIA application primarily use the scanned document standard TIFF to manage FOIA requests by the FBI, National Archives and Records Administration and Securities and Exchange Commission and others. It can also read and allow viewing of over 300 formats/file types. San Francisco-based Summation Legal Tech Summation Blaze allows users to organize documents for instant retrieval, connect images to each document and transfer the database seamlessly online. And Bainbridge Island, Wash.-based Innovative Design & Engineering Associates Inc. organizes trial evidence and provides annotation tools for pretrial and trial exhibit markup and display.

All three of these document management products offer, among a host of other features, the ability to redact documents. However, more expensive than Redax and are designed for specific uses, e.g., trial preparation. As a result, they contain unnecessary tools for a law office or government agency that simply wants to delete a few lines of text and be done. In larger alternatives, Appligent has apparently cornered the market on easy-to-use, redaction-only software.

So the next time you are sharing documents, don't forget to redact -- particularly if you are a criminal defense attorney.

Ari Kaplan, an attorney and a free-lance writer in New York City, can be reached at www.arikaplan.net.

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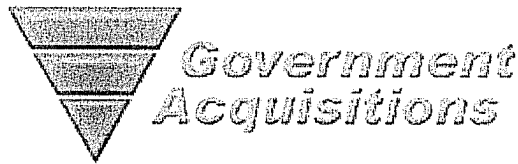
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Plug-in for Acrobat Exchange and Windows rescues redaction process

By David Hawkins

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Box Score B+

Redax 1.5 Digital Applications Inc., Aldan, Pa. tel. 610-284-4006 <http://www.digapp.com> Price: \$279

Pros and cons: + Only product that
redacts .pdf files + Easily customizes
redaction codes – Redacts rectangular areas
only

Real-life requirements: Adobe Acrobat Exchange 3.0 or later, Windows 3.x, Win95 or NT, 16M RAM, 24M for NT, 486 or faster PC; System 7 or later, Power Mac, 16M RAM, 24M for System 8, less than 1M free on hard drive.

Paper documents aren't dead yet. But digital documents are clearly the future for government agencies moving into an information age.

Portable Document Format, developed by Adobe Systems Inc., has become a widespread standard because .pdf files accommodate text and graphics, preserve document formatting and are relatively compact.

But Adobe's Acrobat Exchange program, which allows editing of .pdf documents, isn't well-equipped for redaction, or removing certain information before releasing digital or other documents to the public.

Once again, a plug-in comes to the rescue.

Redax from Digital Applications Inc. is a unique,

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cheap plug-in for Acrobat Exchange for Mac OS or Microsoft Windows. It provides tools needed by government agencies to redact .pdf documents.

It's adaptable for various types of redaction and provides simple but powerful automation.

Agencies throughout government are moving to standardize on PDF for digital documents, said Virginia Gavin, Redax designer and president of Digital Applications. Redax, released last December, is the only available plug-in for redaction of .pdf files, she said.

Redax lets users search a .pdf document and mark words, phrases, images, illustrations or other areas for removal. Users can also assign an exemption code to each marked item. Redax discards the marked text and graphic areas, replacing text with dashes and graphics with black rectangles.

Exemption codes appear where text and graphics were removed. When operations are complete, users save the redacted document as a new .pdf file.

There is a way in Exchange to do some of this without Redax, but not easily. The real value of Redax lies in how you can customize it and use it to automate redaction work.

Redax has two floating palettes that assign exemption codes to marked text and graphics. One palette contains buttons for Freedom of Information Act codes, and the other contains buttons for Privacy Act codes.

Where needed, buttons have pop-up menus of subsection codes, such as FOIA (b)(1) exemptions.

Customize the palettes by showing or hiding any exemption code button. Redax also lets users extend the palettes with exemption codes for a particular agency, such as the 30 codes used by the Defense Department, Gavin said.

Redax performs redaction automatically by choosing words and phrases from a saved list and replacing them with exemption codes. You choose the Redact Using List command and select the text file. Redax searches the document, marks the listed text and replaces it with exemption codes.

You can install Redax by placing the Redax module and the Palettes text file in Exchange's Plug-Ins folder. This adds the Redax menu to the menu bar and places four tools on the Exchange tool bar. Users can use the tools to mark rectangular areas, move forward or backward to select marked items, attach notes to them and select colors for marked items and exemption codes.

Documents processed by Redax are secure because redacted text and graphics are removed, not just hidden. The process doesn't change the original document, only a working copy that gets saved as a new .pdf file.

An upgraded version of Redax will likely be released soon. Enhancements will include polygon and freehand tools to mark nonrectangular areas and improved automated searches without case sensitivity but with word stemming.

A new text tool will simplify selection of words and phrases.

David Hawkins is technical writing manager for graphics software maker Deneba Systems Inc. of Miami.

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EXHIBIT K

Duff Johnson's PDF Perspective

PDF and Acrobat discussion for end-users, CIOs and developers

« [Acrobat 8 meets the Extended Rights Manifesto](#)
[Acrobat 8 meets the Extended Rights Manifesto: Article 2](#) »

Cut it out, or copy without? Redacting with Acrobat 8 Professional vs. Redax

One of the new features in Acrobat 8.0 Professional garnering significant comment is redaction. This handy tool allowing users to permanently eliminate text or graphics from a PDF page. Solid, simple idea - what's not to like?

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Thus far, Acrobat 8's redaction tool has been generally well received in principle, although a few discriminating reviewers have also noted a key concern with the method Adobe chose for redaction in Acrobat 8.0, as we shall see.

Acrobat 8 Professional is the first Adobe software to include a redaction feature for PDF, but it's not the first. Acting on a request from Adobe, in 1996, Appligent developed and released the first version of Redax, which quickly became the definitive tool for serious redaction work on PDF files. The latest version of Appligent's Redax works with Acrobat Standard and Professional versions 6, 7 and 8. So you don't need to upgrade to Acrobat 8 Professional to get PDF redaction.

To help me evaluate Acrobat 8 Pro's new redaction tool, I wanted to find out more about how people use (or fail to use) the one PDF redaction tool that's been available for over 10 years. I talked to Mark Gavin, founder and CTO of Appligent, to get his take. I began by asking Mark to explain the basic difference in the way Redax and Acrobat redact PDF. The answer was illuminating.

"There are two primary differences between Adobe's redaction and Appligent's redaction," Gavin says. "Appligent uses an "additive" redaction methodology while Adobe uses a "subtractive" redaction methodology."

OK, sounds technical... but redaction is redaction, right? Who cares how you zap it? This is where Gavin set me straight.

"Adobe takes an existing document and attempts to remove or "subtract" information," says Gavin. "Appligent creates a new blank document and then "adds" the non-redacted information into the new document. Thus, the new document has never been touched by the information to be redacted."

So, why does this matter?

Although Acrobat redacts the way you might intuitively expect (subtraction), this method is flawed. As I saw for myself almost as soon as I started redacting with Acrobat 8 Pro, I managed to "nuke" my original document by carelessly doing something that's routine for me in other document workflows - a "Save As" operation in which I over-write my original file before I'd even realized what I was doing. I'm not exactly the average user, so this got me thinking.

Someone who makes this mistake while redacting in Acrobat 8 Pro, will be running for the backup tapes - if there are any. Once redacted, that data is GONE. That's a pretty harsh penalty for a easy fumble with a single keystroke. Redax's redaction method, by contrast, makes it pretty much impossible to damage the original document.

The problem arises because Acrobat merely offers the user a 'Save As' opportunity rather than assuming that the redacted file must be, of necessity, a new version of the document... a redacted version. Inattentive users and system crashes are known threats to be engineered around. In principle, no redaction workflow should EVER put the original document at risk.

Gavin went on to explain that Acrobat's method forces the application (and the user) to locate and remove all of the document metadata with an extra step, even custom metadata that Acrobat knows nothing about. Since Redax creates a new blank document, the only information retained is that specifically requested by the user - the text and metadata they affirmatively chose NOT to redact.

The second major difference between Acrobat and Redax, according to Gavin, is that Redax is designed to redact in a "fail safe" manner where Acrobat is not.

"If for whatever reason the document is not redacted correctly, this must be made very clear to the user that something is wrong," Gavin says. "One of the techniques Redax employs to ensure fail safe operation is to use transparent zones to identify redaction areas. If any text or graphics remains in the redacted document it can easily be seen by the end user. On the other hand, Acrobat's redaction zones are completely opaque. Since on occasion the Adobe software will fail to redact all the information correctly, the user won't be able to easily see that information has been left behind."

For these reasons, I cannot as yet recommend Acrobat's redaction, free as it is (with the purchase price of Acrobat 8 Pro), over the fail safe and time-tested Redax.

This entry was posted on Thursday, November 16th, 2006 at 5:25 pm and is filed under [3rd Party Software](#), [Pet Peeves](#), [Unsolicited Advice](#), [Acrobat 8](#). You can follow any responses to this entry through the [RSS 2.0](#) feed. You can [leave a response](#), or [trackback](#) from your own site.

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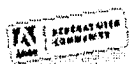
1. *maxwyss* Says:
[January 17th, 2007 at 2:59 pm](#)

There is one question which should be asked to both, Appligent and Adobe: What about digitally signed documents? Considering that more and more documents containing sensitive information (or recact-worthy information) will need a creator's signature, in order to maintain their authenticity.

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